

REMARKS

Law of Obviousness

It is well known that most inventions are composed of elements that *per se* are old and well known. That however, does not make an invention “obvious” under 35 U.S.C. 103. The Examiner’s attention is respectfully drawn to, for example, *ACS Hospital Systems, Inc. v. Montefiore Hospital et al.*, 221 USPQ 929, wherein the CCPA held that “Obviousness cannot be established by combining teachings of prior art to produce claimed combination, absent some teaching or suggestion supporting combination; teachings of references can be combined only if there is some suggestion or incentive to do so, under 35 U.S.C. 103.”

Also, as stated in *W.L. Gore & Associates, Inc. v. Garlock, Inc.* 721 F2d 1540, 220 USPQ 303 (Fed. Cir. 1983):

[t]o imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.

Finally, even if the constituents of an invention may be old, if the result would not have been obvious at the time of invention, then the result may be patentable. *Reiner v. I. Leon Co.*, 285 F2d 501, 128 USPQ 25, (1960 CA2 NY).

In order to determine the basis for a rejection on obviousness grounds, the Examiner must: 1) determine the scope and contents of the prior art; 2) ascertain the differences between the prior art and the claims in issue; 3). resolve the level of ordinary skill in the pertinent art; and 4). evaluate evidence of secondary considerations. Other basic considerations include:

- 1). The claimed invention must be considered as a whole;
- 2). The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;

- 3). The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and
- 4). Reasonable expectation of success is the standard with which obviousness is determined.

Finally, to sustain a *prima facie* case of obviousness:

- 1). There must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings;
- 2). There must be a reasonable expectation of success; and
- 3). The prior art reference must teach or suggest all the claim limitations.

Law of Anticipation

Section 102 (e) provides:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent....

A claim is anticipated only if each and every element as set forth in the claim is found either expressly or inherently described, in a single prior art reference. See: *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed Cir. 1987), *Structural Rubber Prods. CO. v. Park Rubber Co.*, 749 F.2d 707, 715, 223 USPQ 1264, 1270, (Fed. Cir. 1984), *Connell*, 722 F.2d at 1548, 220 USPQ at 198; *Kalman v. Kimerly-Clark Corp.*, 713 F2d 760, 771, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026, 104 S. Ct. 1284, 79 L. Ed.2d 687 (1984).

Argument

Applicant has addressed the §112 issues with claims 7, 13, 14, 16, and 17. Amended claim 2 contains the limitations of original claims 2, 12, and 13. Therefore, claims 2, 14, 15, 16, and 17 should be allowable without further argument.

Regarding original claims 1, 3, 4, and 5, Applicant has included a full translation of Camp (as part of the Information Disclosure Statement) along with a handwritten drawing labeling Camp's main parts in English as found in Camp's specification. Applicant concurs with the Examiner's §102(b) rejection of original claims 1, 3, 4, and 5.

Regarding the Examiner's rejection of original claims 2, 6, 18-20 as obvious in view of Camp, claim 2 is now amended so further argument is moot.

Regarding all of the Examiner's §103 rejections, Applicant will first discuss Camp's disclosure.

Summary of Camp

As shown in FIGS. 1-5, a step-in toe piece is mounted to a plate that rides on a shoe and rail assembly. The plate has a mechanical connection assembly comprising a movable rod which is spring loaded by a lever arm. The end of the movable rod is released by a signal operated latch that has two hinged rods, each of which are spring biased.

Camp has three separate assemblies. First is a plate, rail, and shoe assembly to connect to the toe piece. Second is a lever arm which is spring biased to urge the plate against the toe piece. Third is a receiver and release latch assembly to release the rod linkage that urges the plate and toe piece into the boot.

Applicant uses a single housing which holds a receiver and a spring biased rod and a sear type release for the rod. The rod connects to a track upon which a conventional toe or heel piece is mounted.

Camp discloses a step in toe piece 12 which fastens to a sliding plate 28 which in turn is moved from a ski to a release position by a rod 36. The rod 36 has an external spring 50 and a lever arm 42 to bias the toe piece 12 against the boot 18. The forward end of the rod 36 terminates in a housing 40 which contains a receiver 24. The receiver 24 activates a latching bar 58 via coil 62. When the latching bar 58 is rotated counterclockwise by the coil 62, the rotatable slide bar 56 is spring biased away from the rod 36, thereby allowing a latch 52 to move out of a recess 54 in the rod 36. Rod 36 then is spring biased forward to pull the toe piece 12 away from the boot 18. The distance from the toe piece 12 to the heel piece (not shown) is increased by this electro-mechanical release mechanism.

Applicant's general theory of operation is similar to Camp's which is to move a step-in binding member away from its mate on the ski. Applicant concurs that merely modifying Camp by putting his mechanism on the heel member would be obvious. However, in the ski

art, the weight, complexity, maintainability, and number of required parts are critical to any apparatus mounted to a downhill ski.

Applicant's invention provides a single housing which contains a receiver and a spring which biases a sliding shaft away from the binding member, wherein the sliding shaft is attached to the analogous rod as the Camp invention.

Applicant has eliminated Camp's lever arm 42, 44 and anchor (not labeled), simplified Camp's rod by eliminating a spring stop 48, simplified Camp's rail 32, and simplified the inverted T form shoe 34, fastening plate 28 and mechanical connection mechanism 26 to a flat track with anchors. A conventional toe or heel binding member can be mounted atop Applicant's flat track.

Applicant has amended claims 1, 3, 4, and 5 to contain the non-obvious improvements which were formally contained in dependant claims 6, 7, 18 or 19.

Emilson does not suggest combining a remote control release mechanism for his cross country binding. Emilson can only stand for the proposition that a spring for a ski binding member can be inside a housing and nothing more.

Patent law requires a suggestion in a reference to combine its features with another device wherein obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed.Cir. 2000).

Clearly, Camp only discloses his complex lever arm design without suggesting a simpler embodiment as taught by Applicant. Simplification of a device is patentable. In other words, omission of an element and retention of its function is unobviousness. *In re Edge*, 359 F.2d 896, 149 USPQ 556 (CCPA 1966).

In light of the foregoing amendments and arguments, Applicant respectfully requests the Examiner to pass this application to allowance.

Respectfully Submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES

Replacement paragraph page 13, lines 5-15:

Referring next to FIGS. 9,10,11,12 the equivalent system to that shown in FIGS. 1-8 has been modified to include a mounting board 900 that holds all the system components. The mounting board 900 is screwed to the ski 1 with screws 910. A groove 912 on the top of the mounting board 900 houses the track 11. The track 11 has the same flange 15. The ends of the groove at 913,914 are sized to allow the proper movement of track 11. Holes 902 provide for proper installation of the heel release 4 based on size. This mounting board could be used for the preferred embodiment of FIGS. 22-~~30~~25.

Replacement paragraph page 15, lines 5-13:

Referring next to FIG. 17 a ski ~~boot~~boot 220 is shown stepping into a prior art downhill ski binding 221 which consists of a toe piece 222 and a heel piece 223. The dotted lines of the ski boot 220 show the traditional downward movement of the ski boot 220 for locking into the ski binding 221. The toe piece 222 is screwed into the ski 224 in a known manner. The proper mounting distance between the toe piece and heel piece for boot 220 is shown as D_2 (distance for skiing).

VERSION WITH MARKINGS TO SHOW CHANGES

1 I-WE CLAIM:

2 1. (Amended) A ski binding release system comprising:
3 a track for receiving a ski binding member;
4 a remote transmitter;
5 a receiver mountable on a ski with an actuator
6 connected to the track; and
7 wherein the remote transmitter activates the
8 receiver which in turn activates the actuator to
9 move the track, thereby moving the ski binding
10 member-;
11 wherein the track further comprises a flat rigid
12 member having a forward and a rear anchor for
13 attachment to a ski;
14 wherein the flat rigid member slides in the
15 anchors;
16 wherein the flat rigid member is controlled by the
17 actuator; and
18 wherein the actuator further comprises a spring
19 mechanism having a housing containing a main
20 spring powering a rod connected to the track and
21 a receiver to receive the remote signal and
22 release the actuator from a ski position to a
23 release position.

24
25 2. (Amended) An improvement to a ski binding release
26 system, said ski binding release system having a toe piece
27 and a heel piece to hold a boot, the improvement comprising:
28 a track connected to the heel piece; and
29 an actuator connected to the track which increases
30 a mounting distance between the toe piece and
31 the heel piece on demand from a remote signal-;

1 wherein the actuator further comprises a compressed
2 gas cylinder having a piston connected to the
3 track; and
4 wherein the compressed gas cylinder further
5 comprises a plug which is connected to a
6 linkage, wherein a receiver receives the remote
7 signal and powers the linkage to unplug from the
8 compressed gas cylinder, thereby allowing a
9 spring to move the actuator from a ski position
10 to a release position.

11
12 3. (Amended) A ski binding release system
13 comprising:

14 a toe and a heel piece; and
15 a mechanism having an actuator to enlarge a
16 mounting distance between the toe and the heel
17 piece on demand from a remote signal-;
18 said mechanism having a single housing which
19 contains a connector to a track and having a
20 spring which releaseably biases the track
21 against a binding member, and having a receiver
22 to receive a remote signal to release the
23 spring; and
24 said track suited to receive either the toe or the
25 heel piece.

26
27 4. (Amended) A ski binding release system
28 comprising:

29 a toe and a heel piece designed to have a mounting
30 distance therebetween to secure a ski boot; and

1 an extension mechanism to release the ski boot by
2 enlarging the mounting distance on demand from a
3 remote signal-;
4 said extension mechanism having a single housing to
5 contain a spring, a connector to a track which
6 is biased by the spring, and a receiver which
7 controls a release of the spring; and
8 wherein the track further comprises a flat rigid
9 member having a forward and a rear anchor for
10 attachment to a ski, wherein the flat rigid
11 member slides in the anchors controlled by the
12 actuator.

13
14 5. (Amended) An improvement to a ski binding release
15 system, said ski binding release system having a toe piece
16 and a heel piece to hold a boot, the improvement comprising:
17 a track connected to the toe piece; and
18 an actuator connected to the track which increases
19 a mounting distance between the toe piece and
20 the heel piece on demand from a remote signal-;
21 wherein the actuator further comprises a single
22 housing containing a spring loaded piston having
23 a ski position with the spring compressed, and a
24 release position with the spring released, said
25 piston having a locking groove, a locking pin
26 removably engagable in the locking groove, and a
27 receiver to receive the remote signal and power
28 an electronic device to disengage the locking
29 pin, thereby releasing the ski boot by causing
30 the toe piece to move to a larger distance from
31 the heel piece.

1

2 6. ~~(Cancel)~~ ~~The improvement of claim 2, wherein the~~
3 ~~track further comprises a flat rigid member having a forward~~
4 ~~and a rear anchor for attachment to a ski, wherein the flat~~
5 ~~rigid member slides in the anchors controlled by the~~
6 ~~actuator.~~

7

8 7. ~~(Cancel)~~ ~~The improvement of claim 2, wherein the~~
9 ~~actuator further comprises a spring mechanism having a~~
10 ~~housing containing a main spring powering a rod connected to~~
11 ~~the track and a receiver to receive the remote signal and~~
12 ~~release the actuator from a ski position to a release~~
13 ~~position.~~

14

15 8. ~~(Amended)~~ The improvement of claim 7~~3~~, wherein
16 the housing further comprises a sliding shaft having a
17 groove, a locking pin pivotally engaged in the groove and an
18 electronically activated trigger to release the locking pin
19 when the receiver powers a solenoid to move the trigger.

20

21 9. ~~(Amended)~~ The improvement of claim 7~~8~~ further
22 comprising a transmitter contained in a ski pole to activate
23 the receiver.

24

25 10. ~~(No change)~~ The improvement of claim 9, wherein
26 the transmitter further comprises a safety switch to prevent
27 an accidental transmission.

28

29 11. ~~(Amended)~~ The improvement of claim 7~~3~~ further
30 comprising a mounting plate to house the toe piece, the

1 track, the heel piece and the actuator, said mounting plate
2 having a hole for mounting to a ski.

3
4 12. (Cancel) ~~The improvement of claim 2, wherein the~~
5 ~~actuator further comprises a compressed gas cylinder having~~
6 ~~a piston connected to the track.~~

7
8 13. (Cancel) ~~The improvement of claim 12, wherein the~~
9 ~~compressed gas cylinder further comprises a plug which is~~
10 ~~connected to a linear activator, wherein a receiver receives~~
11 ~~the remote signal and powers the linear activator to unplug~~
12 ~~the plug, thereby allowing a spring to move the actuator~~
13 ~~from a ski position to a release position.~~

14
15 14. (Amended) The improvement of claim ~~13~~2, wherein
16 the plug blocks an outlet tube which emits a loud noise upon
17 release of the plug.

18
19 15. (Amended) The improvement of claim ~~12~~2, wherein a
20 gas in the compressed gas cylinder further comprises a color
21 to assist locating a lost ski in powder upon the release of
22 the compressed gas.

23
24 16. (Amended) The improvement of claim ~~13-2~~ further
25 comprising a CO₂ cartridge connected to the compressed gas
26 cylinder to provide a source of compressed gas.

27
28 17. (No change) The improvement of claim 16 further
29 comprising a CO₂ cartridge housing and puncture mechanism to
30 charge the compressed gas cylinder.

1 18. (Cancel) ~~The system of claim 4, wherein the~~
2 ~~extension mechanism further comprises a moveable track upon~~
3 ~~which the heel piece is connected.~~

4
5 19. (Cancel) ~~The system of claim 18, wherein the~~
6 ~~extension mechanism further comprises a spring loaded piston~~
7 ~~having a ski position with the spring compressed release~~
8 ~~position with the spring released, said piston having a~~
9 ~~locking groove, a locking pin removably engagable in the~~
10 ~~locking groove, and a receiver to receive the remote signal~~
11 ~~and power an electronic device to disengage the locking pin,~~
12 ~~thereby releasing the ski boot by causing the heel piece to~~
13 ~~move to a larger distance from the toe piece.~~

14
15 20. (Amended) The system of claim ~~19-5~~ further
16 comprising a wedge to receive a lever which can cock the
17 spring loaded piston to the ski position.

18